Dometic

Mobile climate solutions

Marine climate systems 46 – 53

Dometic – trusted partner of the world's most prestigious boat builders

Boat owners and boat builders all over the world choose Dometic when it comes to marine climate systems. With three world-leading brands – Condaria, Cruisair, and Marine Air – we provide solutions that range from compact, self-contained units for small pleasure craft to large, multi-stage chilled water systems for luxury yachts.

Now, with the Marine Climate Systems line of self-contained air conditioning systems, Dometic offers the ideal do-it-yourself retrofit solution for smaller yachts and boats.

Our list of OEM clients speaks for itself.
Azimut / Beneteau / Benetti / Cranchi / Fairline
Ferretti / Najad / Nautor Swan / Palmer Johnson
Princess / Rodman / Sea Ray / Sunseeker / Windy

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Dometic Marine Products
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Dometic Marine Climate Systems

Self-contained solution for DIY fitting

Dometic Marine Climate Systems (MCS) can easily be retrofitted into your yacht or boat. Dometic offers three self-contained MCS systems that come complete with air ducts, seawater pump and installation fittings. All A/C components are mounted on a single chassis – which saves space and money. Dometic Marine Climate Systems are the ideal retrofit solution for smaller yachts and boats.

Dometic MCS 15 Retrofit Kit shown
(Complete MCS packages on following page)

Dometic Marine Climate Systems

Compact, seawater-cooled, and installer-friendly: the new Dometic Marine Climate Systems (MCS) are designed for retrofitting.

Choose from three MCS models depending on the size of your cabin. You can treat a second cabin with the optional air distribution kit (MCS 10 and MCS 15 only). Efficient heat pump technology provides heating in water temperatures as low as 6°C. Additionally, the air conditioner dehumidifies the air.

Powerful yet quiet, the high-velocity blower can be adjusted horizontally or vertically depending on conditions.

The easy-to-use digital display controls all essential air conditioning functions.

- Powerful system, cooling and heating combined
- Small, compact and space-saving
- Complete package solution with all installation fittings and control elements included
- 3 models with a capacity of 5000, 10000, or 15000 BTU/h (1500, 3000, or 4400 watts/h)
- Integrated air filter, easy to remove and clean
- Compact and user-friendly control panel
- Optional add-on kit for directing the air flow into two separate cabins (for MCS 10 and MCS 15)
- High-quality return-air and supply-air grills

Plan your own system

Selecting the right marine climate system depends on the size and location of the cabin(s) to be treated. A cabin below deck will require less capacity per square metre of room area than an upper-deck cabin with large windows directly exposed to the sun.

Maximum air-conditioned room size (at ambient temperatures of 20 – 35°C)

	Below deck (no windows)	Mid deck (small windows)	Above deck (large windows)
Dometic MCS 5	8 m²	5 m²	4 m²
Dometic MCS 10	16 m²	10 m²	8 m²
Dometic MCS 15	23 m²	15 m²	12 m²

Contents, specifications and availability are subject to change due to the technical improvement.

The digital control panel

Easy to use: Complete system control at the touch of a button.

Dometic's digital control panel is a microprocessor-based controller which provides six manual fan speeds and an automatic fan-speed mode. Set-point temperature is available in one-degree increments. Ambient temperature is continuously displayed on the easy-to-read LED, which can be dimmed at night.

- Fan speeds: 6/automatic mode
- Display illumination can be dimmed to keep cabin dark at night
- Factory-preset temperature range – can be adjusted to individual needs
- Dehumidification mode – automatically dehumidifies the room air when the boat is not in use (requires power to unit)

User-friendly functions

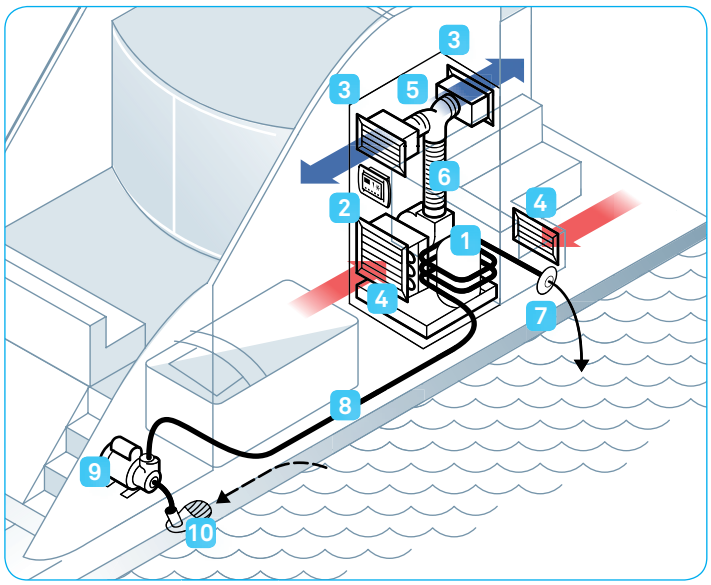
1. ON / OFF
2. LED cooling mode
   LED manual blower speed set
   LED heating mode
3. Select fan speed 1 to 6, A = automatic mode
4. Temperature setting: 1 tap = 1 degree down
5. Temperature setting: 1 tap = 1 degree up
6. Digital display
7. Temperature sensor

How it works and how it's installed

Dometic Marine Climate Systems work on the heat pump principle, so they can be used for cooling as well as for heating.

As with all air conditioners, they operate based on the transfer of heat. In cooling mode heat is extracted from the cabin air, transferred to the refrigerant and then released into the seawater. In heating mode, the cycle is simply reversed – heat is extracted from the seawater into the cabin. It even works in water temperatures as low as 6°C.

The diagram at right shows a typical installation layout for an MCS 10 or MCS 15 self-contained A/C system with an optional air distribution kit installed, allowing the cooling or heating of two cabins simultaneously.



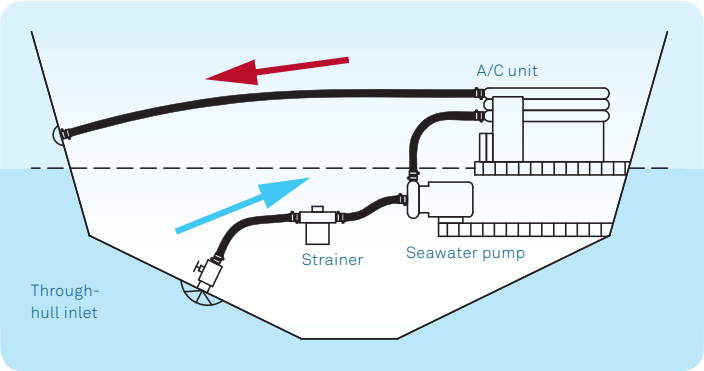
1. MCS A/C unit
2. Control panel
3. Supply-air grille
4. Return-air grille
5. Y-splitter
6. Air duct, insulated
7. Overboard discharge
8. Seawater inlet hose
9. Seawater pump
10. Thru-hull fitting (clam shell scoop)

| Correct installation of the air distribution system

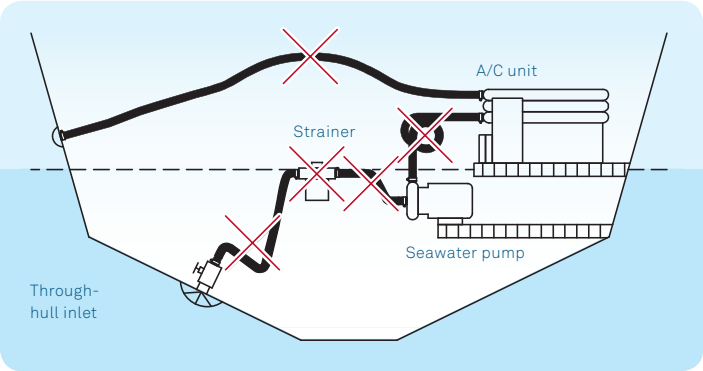
Once you have selected a good place for the air conditioner (e.g. under a settee, in a locker or under a V-berth) and mounted it, you connect the insulated air ducting. The return-air grill should be installed close to the A/C unit, in the lower part of the cabin – the supply-air grill should be placed as high as possible (cool air falls) and as far away from the return-air grill as possible to ensure good air circulation.

| Seawater connection – important things to note

The seawater components must be installed below the water line – with a steady upward flow from the through-hull inlet through the strainer and pump to the A/C unit. This prevents air becoming trapped in the seawater components. The discharge from the A/C unit to the seawater outlet should be as short and direct as possible to a point just above the water line.



CORRECT: The pump is installed below the water line. A steady upward flow from the through-hull inlet to the A/C unit is provided. The discharge from the A/C unit to the hull outlet shows a slightly downward flow. All hoses are laid correctly (without kinks and loops) and secured with double clamps.



INCORRECT: The hoses have kinks, loops or high/low spots where air can be trapped. The seawater strainer must be installed below the pump. The hose connections are secured with single clamps only.

Contents, specifications and availability are subject to change due to the technical improvement.

Dometic MCS 5 / MCS 10 / MCS 15

2.12

Complete climate system with 1500-, 3000- or 4400-watt cooling capacity for 230-volt operation

	MCS 5	MCS 10	MCS 15
Cooling capacity	5000 BTU/h	10000 BTU/h	15000 BTU/h
Heating capacity	1500 watts	3000 watts	4400 watts
Power consumption in cooling/heating mode	500 watts / 660 watts	817 watts / 1050 watts	1000 watts / 1300 watts
Input voltage	230 volts AC [220 to 240 volts] /50 Hz		
Power consumption in cooling/heating mode	2.2 A/2.9 A	3.7 A/4.7 A	4.5 A/5.8 A
Required circuit protection [harbour]	min. 7 A, max. 10 A, delay fuse	min. 9 A, max. 14 A, delay fuse	min. 11A, max. 20 A, delay fuse
Starting current	up to 11 A	up to 22 A	up to 32 A
Number of blower speeds	6/automatic		
Temperature range [preset]	18°C to 30°C		
Thermostat temperature control	yes		
Refrigerant	R417a		
Dimensions [W x H x D] A/C unit Electronic control	241 x 298 x 451 mm 165 x 222 x 67 mm	248 x 343 x 552 mm 165 x 222 x 67 mm	279 x 343 x 552 mm 165 x 222 x 67 mm
Weight	18 kg	26 kg	28 kg
Quality features	Complete set including seawater components, air duct and installation fittings, space-saving self-contained air conditioner, high-quality, corrosion-resistant materials		
Test mark	CE		

Scope of delivery: A/C unit, electrical box and control panel, seawater pump, seawater strainer, air ducts, supply-air and return-air grilles, seawater hose, through-hull fittings, fixing material, fittings, valves

Product	Ref. No.
Dometic MCS 5	9108548387
Dometic MCS 10	9108689559
Dometic MCS 15	9108548391

Cooling and heating

For 230 V AC

Perfect climate in a complete set

Compact, space-saving A/C unit

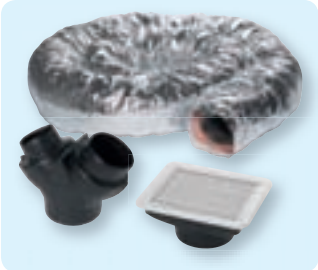
Efficient seawater cooling system

Environmentally friendly refrigerant

Dometic MCS Accessories

2.12

Air distribution kit



Function

This add-on kit for the Dometic MCS 10 and MCS 15 can be used to cool or heat two cabins simultaneously. Due to the flexible design it can be easily adapted to individual mounting conditions.

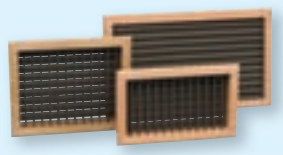
Dimensions [inner Ø x L]	
Air duct	100 mm x 3.80 m

Scope of delivery: air duct, closable supply air grill, Y-piece

Product	Ref. No.
Air distribution kit	9108549923

Low-cost two-cabin solution

Wood grills



Product	Cut-out dimensions [W x H]	Ref. No.
Return grill – Cherry, for MCS 5	25,5 x 20,5 cm	9108548943
Supply grill – Cherry, for MCS 5	20,5 x 10,2 cm	9108548884
Return grill – Teak, for MCS 5	25,5 x 20,5 cm	9108549310
Supply grill – Teak, for MCS 5	20,5 x 10,2 cm	9108549256
Plenum box – Plastic, for MCS 5*		9108550052
Return grill – Cherry, for MCS 10	25,5 x 25,5 cm	9108548892
Supply grill – Cherry, for MCS 10	25,5 x 15,3 cm	9108548890
Return grill – Teak, for MCS 10	25,5 x 25,5 cm	9108549284
Supply grill – Teak, for MCS 10	25,5 x 15,3 cm	9108549294
Plenum box – Aluminium, for MCS 10*		9108550675
Return grill – Cherry, for MCS 15	35,6 x 30,5 cm	9108548917
Supply grill – Cherry, for MCS 15	25,5 x 20,3 cm	9108548900
Return grill – Teak, for MCS 15	35,6 x 30,5 cm	9108549278
Supply grill – Teak, for MCS 15	25,5 x 20,3 cm	9108549291
Plenum box – Aluminium, for MCS 15*		9108690494

*Plenums are needed for supply air grills

Real-wood grills

Added aesthetic value

Louvers can be removed for cleaning

Return-air grills have easy-to-clean, replaceable filters

Supply-air grills have double-deflection, moveable louvers

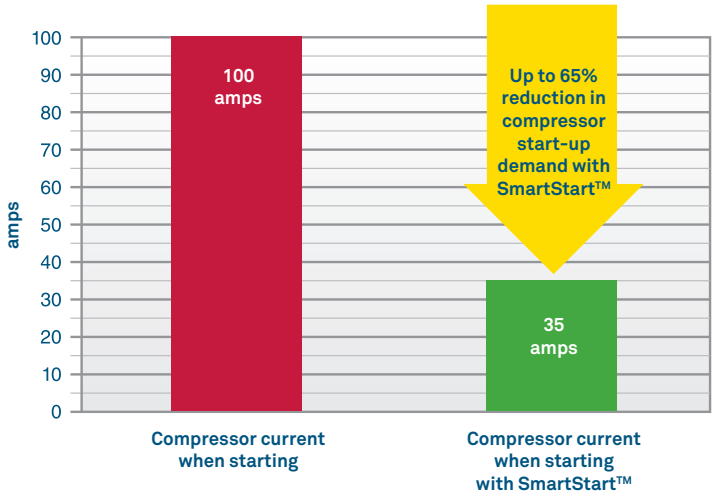
Reduce compressor start-up current

Eliminate start-up spikes

The biggest drain on a generator usually occurs when the A/C compressor starts.

Avoid brown-outs and reduce the power surge by up to 65% with the new Dometic SmartStart™ single-phase soft starter. This unique device smoothes out start-up power demand instead of spiking it.

With the SmartStart™ installed, compressor start-up is absolutely problem-free – even at moorings with low electrical circuit protection. This compact, lightweight solution can be quickly and easily integrated into new or existing systems.



Dometic SmartStart™ Single-Phase Soft Starter 2.12

Function	
Soft starter for reducing the A/C compressor starting current	
Dimensions [W x H x D]	127 x 76 x 51 mm

Product	Ref. No.
Dometic SmartStart™	9108680633

Single-phase soft starter

Replacement centrifugal seawater pumps

Dometic's centrifugal pumps are an excellent choice for providing seawater circulation for marine air conditioning systems.

The proven magnetic drive eliminates the troublesome mechanical shaft seal. There is no seal wear, power-robbing friction, or leakage through the seal. The impeller and drive magnets prevent slippage, ensuring that full motor power is converted into pumping power.

Centrifugal pumps require a flooded inlet and should be mounted below the waterline.

- Magnetic-drive impeller means no seal to wear, leak, or repair
- Efficient motor with low power consumption
- Includes a marine-grade base
- All components in contact with water are plastic, ceramic, or stainless steel
- 1.9 m power cord
- 230 V

Centrifugal seawater pumps 2.12

	PML250 230 V 50/60 Hz	PML500 230 V 50/60 Hz
Max. Capacity	19 lpm [@ 3.9 m. of head]	32 lpm [@ 5.8 m. of head]
Running amps	0.53	1.00
Motor HP	1/35	1/20
Weight	2.3 kg	4.1 kg

Scope of delivery: centrifugal seawater pump with 1.9 m power cord

Product	Compatible with	Ref. No.
PML250 230 V 50/60 Hz	MCS 5 & MCS 10	9108557466
PML500 230 V 50/60 Hz	MCS 15	9108557467

Magnetic-drive impeller eliminates wear, leaks, and repairs

Contents, specifications and availability are subject to change due to the technical improvement.

Dometic In-Duct Breathe Easy™ Air Purifier

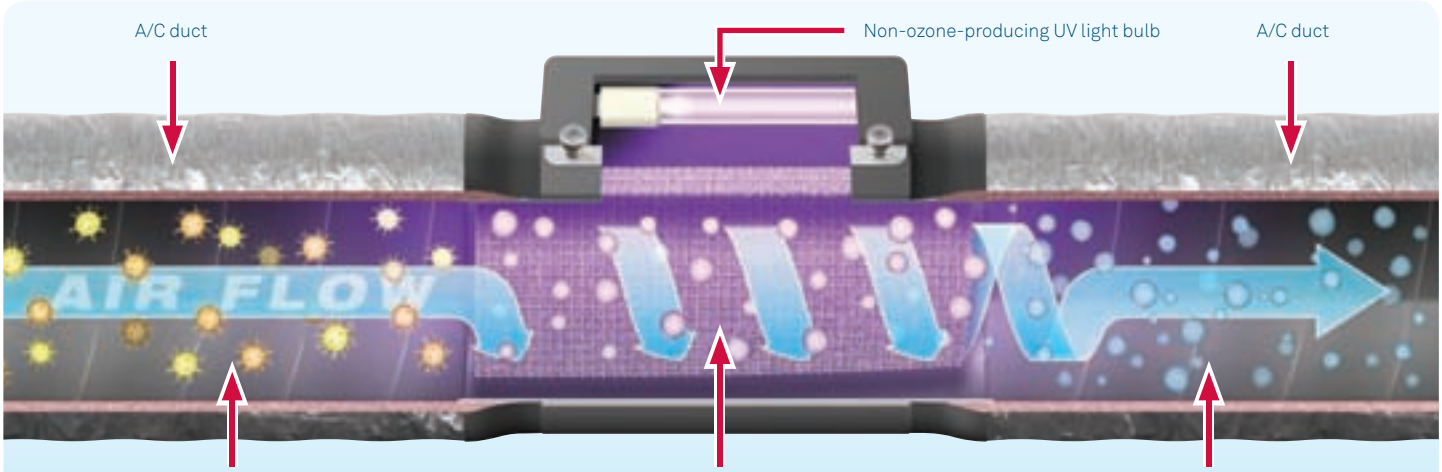
Live Healthy, Breathe Easy™

Indoor air can be five times more polluted than outdoor air. Now you can reduce biological contaminants and stop odours on your vessel with the Breathe Easy™ Air Purifier!

The In-Duct Breathe Easy™ operates silently within the ducting of your boat's A/C system. As air circulates through the unit, non-ozone producing ultraviolet (UV) light reduces biological contaminants like mold spores, bacteria, and viruses. UV light energy also activates the titanium-dioxide catalyst on the surface of the nano-mesh structure. The molecules of pollutants and odours that come in contact with it are reconfigured into non-toxic elements.

Recirculating air makes multiple passes through the purifier, continuously improving air quality. Significantly cleaner, healthier air exits the system with up to 100% reduction in bacteria, fungi, and volatile organic compounds.

- Eliminate unpleasant odours
- Reduce mold spores, bacteria, viruses, and diesel fumes
- Enhance air quality
- Cleaner air may lessen allergy and asthma symptoms
- Special UV light produces no harmful ozone



Dometic In-Duct Breathe Easy™ Air Purifier 3.20

Diameter	**102 mm**	**152 mm**
UV bulb	12 watts	
Volts/Hz/mA	230 AC/50 Hz/350 mA	
Test mark	CE	
Dimensions [H x W]	133 x 267 mm	191 x 267 mm

Scope of delivery: in-duct air purifier, one UV bulb, power cord with ballast/power supply.

Product	Compatible with	Ref. No.
In-Duct Air Purifier, 102 mm	MCS 5	9108682881
In-Duct Air Purifier, 152 mm	MCS 10 & MCS 15	9108681937

In-duct air purifier

No ozone produced

2010 IBEX INNOVATION AWARDS WINNER

Dometic Mobile Breathe Easy™ Air Purifier 3.20

Capacity	Effective in areas up to 9.3 sq. m [100 sq. ft.]
Volts/Hz/mA	12 DC, 230 AC/50 Hz/500 mA
Consumption	5 watts
Dimensions [W x H x D]	160 x 40 x 115 mm
Test mark	CE

Scope of delivery: mobile air purifier, 12/230 volt connection.

Product	Ref. No.
Mobile air purifier	9108680632

Mobile air purifier

No ozone produced

2009 DAME DESIGN AWARD METS SPECIAL MENTION